

translation



PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

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|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|-------------------------------------------------------------|
| Applicant's or agent's file reference WO1606EGT | FOR FURTHER ACTION | See Form PCT/IPEA/416 |
| International application No. PCT/JP2003/009083 | International filing date (day/month/year) 17 July 2003 (17.07.2003) | Priority date (day/month/year) 18 July 2002 (18.07.2002) |
| International Patent Classification (IPC) or national classification and IPC H01M 8/02, 8/10 | | |
| Applicant HONDA GIKEN KOGYO KABUSHIKI KAISHA | | |

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|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36. |
| 2. | This REPORT consists of a total of <u>4</u> sheets, including this cover sheet. |
| 3. | This report is also accompanied by ANNEXES, comprising: <ul style="list-style-type: none"> a. <input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of <u>3</u> sheets, as follows: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions). |
| 4. | This report contains indications relating to the following items: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Box No. I Basis of the report <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input type="checkbox"/> Box No. VII Certain defects in the international application <input type="checkbox"/> Box No. VIII Certain observations on the international application |

| | |
|-------------------------------------------------------------------|----------------------------------------------------------------|
| Date of submission of the demand 13 February 2004 (13.02.2004) | Date of completion of this report 12 July 2004 (12.07.2004) |
| Name and mailing address of the IPEA/JP | Authorized officer |
| Facsimile No. | Telephone No. |

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2003/009083

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on translations from the original language into the following language _____, which is language of a translation furnished for the purpose of:

- ☐ international search (under Rules 12.3 and 23.1(b))
- ☐ publication of the international application (under Rule 12.4)
- ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

☐ The international application as originally filed/furnished

☒ the description:

pages _____ 1-40 _____, as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☒ the claims:

pages _____ 3-6 _____, as originally filed/furnished

pages* _____, as amended (together with any statement) under Article 19

pages* _____ 1 _____ received by this Authority on 13 February 2004 (13.02.2004)

pages* _____ received by this Authority on _____

☒ the drawings:

pages _____ 1/25-25/25 _____, as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☒ The amendments have resulted in the cancellation of:

☐ the description, pages _____

☒ the claims, Nos. _____ 2 _____

☐ the drawings, sheets/figs _____

☐ the sequence listing (*specify*): _____

☐ any table(s) related to sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages _____

☐ the claims, Nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing (*specify*): _____

☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/JP 03/09083

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

| | | | |
|-------------------------------|--------|--------|-----|
| Novelty (N) | Claims | 1, 3-6 | YES |
| | Claims | | NO |
| Inventive step (IS) | Claims | | YES |
| | Claims | 1, 3-6 | NO |
| Industrial applicability (IA) | Claims | 1, 3-6 | YES |
| | Claims | | NO |

2. Citations and explanations

Document 1: JP 2000-239488 A (Nichias Corporation), 5 September 2000, [claims], paragraphs [0014] to [0023]

Document 2: JP 2000-234055 A (Nichias Corporation), 29 August 2000, [claims]; paragraphs [0010] to [0018]

Document 3: JP 2002-198063 A (Mitsubishi Chemical Corporation), 12 July 2002, [claims]; paragraph [0010]

Document 4: JP 2002-184420 A (Mitsubishi Chemical Corporation), 28 June 2002, [claims]; paragraph [0025]

Document 5: JP 2000-176654 A (Ultex Corporation), 27 June 2000, entire text

Document 6: JP 6-290796 A (Shin-Etsu Polymer Co., Ltd.), 18 October 1994, paragraph [0023]

Document 7: JP 2000-12067 A (Fuji Electric Co., Ltd.), 14 January 2000, [claims]; [fig. 3]

Claim 1

The invention set forth in claim 1 does not involve an inventive step in the light of documents 1 to 4 cited in the international search report.

It is a known technique to employ a thermoplastic

resin such as polyphenylene sulfide as a separator material, as described in documents 3 and 4.

It would therefore not be difficult for a person skilled in the art to employ polyphenylene sulfide or the like as the thermoplastic resin material used as a separator set forth in document 1 or 2.

Claims 3 and 4

The invention set forth in claims 3 and 4 does not involve an inventive step in the light of documents 1 to 6 cited in the international search report.

As described in documents 5 and 6, it is a widely known technical feature to bond members together by ultrasonic vibration.

It would therefore not be difficult for a person skilled in the art to employ said method when joining the separator and gas diffusion layer in the inventions set forth in documents 1 or 2.

Claims 5 and 6

The invention set forth in claims 5 and 6 does not involve an inventive step in the light of documents 1 to 7 cited in the international search report.

As described in document 7, the provision of a refrigerant passage between two separators is a known technical feature in said technical field.